

Crustaceans

North Sea

The definition of crustaceans, according to Collins dictionary, is: "A crustacean is an animal with a hard shell and several pairs of legs, which usually lives in water. Crabs, lobsters, and shrimps are crustaceans."



(Definition of Crustacean, n.d.). Crustaceans are known to feed on a variety of different food sources, such as detritus, spat (bivalve eggs floating in the water) and other prey animals (Van der Veer et al., 1987; Van der Veer et al., 1998; Jung et al., 2017). Additionally, cannibalism occurs frequently among crustaceans (Ocampo et al., 2018). In order forage for their food, crustaceans migrate from area to find potential meals (Van der Veer et al., 1987; Van der Veer et al., 1998; Jung et al., 2017). Species of crustacea that are known to inhabit the North Sea are: Shore crab (*Carcinus maenas*), Edible crab (*Cancer pagurus*), and Brown shrimp (*Crangon crangon*) (Ocampo et al., 2018; Lotze, 2005). There are a few invasive crustaceans that inhabit the North Sea, one of which is the Chinese mitten crab (*Eriocheir sinensis*) (Gittenberger et al., 2015).

History/ Population trends

Crustacean populations in the North Sea have fluctuated over the years but have increased in recent years (Jung et al., 2017). According to Jung et al., this is because of changes in predator-prey interactions following concurrent changes in predatory epibenthic fish and crustaceans as well as their prey, macrozoobenthic bivalves and polychaetes, in the North Sea (2017). Jung et al. continues by denoting that these changes mainly occurred because of invasive species that have started to out compete other prey species of the crustaceans (2017).

Crustaceans have significant importance to human civilization at the North Sea. For instance, the second most landed shellfish in the North Sea is the Norway lobster (*Nephrops norvegicus*) and in recent years has generated 107 M€ per year (Letschert et al., 2015).

Miscellaneous

- Taxonomically speaking, orders such as: *Hymenoptera* (wasps and ants) and *Coleoptera* (beetles), are technically part of the Crustacea-branch (Boumans, 2008).
- The two largest crustaceans in the world are the American lobster (*Homarus americanus*) and the Giant spider crab (*Macrocheira kaempferi*) (Le Blanc, 2007). The American lobster can reach a body length of 1m and the Giant spider crab can reach a leg span of up to 3m.
- The largest crustacean in the North Sea is the King crab (Thomas Environmental Consultants, 2016). Falk-Petersen et al. found that the size of maturity, for females in different areas, range from 65.7 to 105 mm carapace length (2004).

Diet

- Decaying organic matter (Mao et al., 2015; Ocampo et al., 2018)
- Barnacles (Mao et al., 2015; Ocampo et al., 2018)
- Oysters (Mao et al., 2015; Ocampo et al., 2018)
- Mussels (Mao et al., 2015; Ocampo et al., 2018)
- Other bivalves (Mao et al., 2015; Ocampo et al., 2018)
- Other detritivores (Mao et al., 2015; Ocampo et al., 2018)
- Cannibalism (Mao et al., 2015; Ocampo et al., 2018)
- Annelida (Mao et al., 2015; Ocampo et al., 2018)
- Zooplankton (Mao et al., 2015; Ocampo et al., 2018)
- Phytoplankton (Mao et al., 2015; Ocampo et al., 2018)

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